

**Flood Control Project Maintenance
Levee Inspections****LMA District Cover Sheet
Spring 2016 Levee Inspection Results****Reclamation District No. 1660 Tisdale**

	Spring (March - May)	Summer ** (June - August)	Fall (September - November)	Winter ** (December - February)
* Overall LMA Rating (Fall Only)				

** Non-receipt of Summer or Winter Inspection Reports may effect overall annual rating.

*
SPRING INSPECTIONS: Overall maintenance ratings are not determined for the spring inspection results. Individual maintenance deficiencies are rated using the same criteria in the spring and in the fall.

FALL INSPECTIONS: The overall maintenance rating shown above is based on operation and maintenance deficiencies identified within the attached unit inspection reports. This rating is not intended to be an indication of risk.

Comments

**Flood Control Project Maintenance
Levee Inspections**

Unit Cover Sheet

Spring 2016 Levee Inspection Results

Reclamation District No. 1660 Tisdale

Waterway			Bank	Unit Miles
Unit No. 01 Sacramento River			Left	2.94
	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)				
Date of Inspection	3/29/2016 - 3/29/2016			
DWR Inspector	Keith Millard			
Accompanied By	Andy Duffey			

Summer & Winter Inspections

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

<http://cdec.water.ca.gov/lma.html>

If the LMA is unable to submit information on this webpage, please contact DWR for assistance.

The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/29/2016 03/29/2016	Keith Millard

LM Start		Rating **	A	Issue No.	14
LM End		Issue Type +	Ma	Location *	LS
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Operations & Maintenance Manuals			°	°
				°	°
DWR ID	DWR_RD1660_01_s _ 2013_14				
Comment Code					
Inspector Comment					
The LMA has the O&M manuals.					

No Photos

LM Start		Rating **	A	Issue No.	15
LM End		Issue Type +	Ma	Location *	LS
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Emergency Supplies & Equipment			°	°
				°	°
DWR ID	DWR_RD1660_01_s _ 2013_15				
Comment Code					
Inspector Comment					
The LMA has adequate emergency supplies and equipment.					

No Photos

LM Start		Rating **	A	Issue No.	16
LM End		Issue Type +	Ma	Location *	LS
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Flood Preparedness & Training			°	°
				°	°
DWR ID	DWR_RD1660_01_s _ 2013_16				
Comment Code					
Inspector Comment					
The LMA has completed flood fight training in 2014.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/29/2016 03/29/2016	Keith Millard

LM Start	0.02	Rating **	U	Issue No.	17
LM End	0.06	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.063086 °	39.062462 °
				-121.837854 °	-121.837896 °
DWR ID	DWR_RD1660_01_s_2016_17				
Comment Code					
FE : Fence					
Inspector Comment					
4 foot high chain link					

No Photos

LM Start	0.05	Rating **	M	Issue No.	12
LM End	0.05	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.062643 °	39.062643 °
				-121.837857 °	-121.837857 °
DWR ID	DWR_RD1660_01_s_2012_12				
Comment Code					
BU : Building					
Inspector Comment					

Photo 1 of 1 : SP_2016_RD1660_8_12_20160316_00005.jpg



View of the building and fence at the landside toe.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/29/2016 03/29/2016	Keith Millard

LM Start	0.14	Rating **	M	Issue No.	22
LM End	0.14	Issue Type +	En	Location *	LS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			39.061322 °	39.061322 °
				-121.837993 °	-121.837993 °
DWR ID					
Comment Code					
Inspector Comment					
FS_ID:46670					
DS_ID:22489					
EP_NO: N/A					
Repair Type: Non-Urgent					
Crossing Status: Found					
UCIP Comments: - needs proper abandonment.- opening of landside pipe almost buried.					
FIELD_STRUCT_DESC: *ABANDONED* 24-inch pipe thru levee, 16.4					
FBC. Slide gate in concrete well at toe of WW slope. (IV A-Winship).					
USACE bench mark on top of headwall at LS toe. O&M Manual SAC					
133, August 1955.					
FS Date: 10/10/2013					

LM Start	0.14	Rating **	M	Issue No.	22 (cont)
LM End	0.14	Issue Type +	En	Location *	LS

Photo 1 of 2 : UCIP_SP_2016_46670_38107.jpg



WS view: concrete box on levee slope. No pipe found on berm and river bank.

Photo 2 of 2 : UCIP_SP_2016_46670_38106.jpg



WS view: two slide gates in concrete box on levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/29/2016 03/29/2016	Keith Millard

LM Start	1.10	Rating **	M	Issue No.	9
LM End	1.45	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.047610 °	39.043221 °
				-121.838802 °	-121.835815 °
DWR ID	DWR_RD1660_01_s_2012_9				
Comment Code					
DT : Ditch					
Inspector Comment					

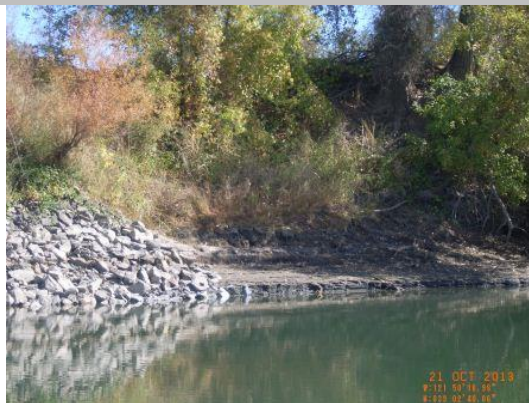
Photo 1 of 1 : SP_2016_RD1660_8_9_20160316_00004.jpg



View of the ag ditch along the L/S toe.

LM Start	1.33	Rating **	M	Issue No.	8
LM End	1.36	Issue Type +	Ma	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	2015 USACE Erosion Survey, DRAFT			39.044361 °	39.043916 °
				-121.837654 °	-121.837305 °
DWR ID	DWR_RD1660_01_s_2016_8				
Comment Code					
Inspector Comment					
2009 - Erosion on levee toe where an old cobble site is failing. 2011 - Some new minor erosion. 2012 - Site extended downstream, bank is being impacted from the weight of the trees. 2013 - Minor new erosion at the toe. 2015: Minor new erosion at the toe. [2015 Site ID: SAC_120-6_L]					

Photo 1 of 1 : SP_2016_RD1660_8_8_20160316_00003.jpg



USACE 2013 Photo #1

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/29/2016 03/29/2016	Keith Millard

LM Start	1.53	Rating **	M	Issue No.	20
LM End	1.53	Issue Type +	En	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			39.042304 °	39.042304 °
				-121.834783 °	-121.834783 °
DWR ID					
Comment Code					
Inspector Comment					
FS_ID:22543 DS_ID:22484 EP_NO: 16476 Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: - 16-inch old steel pipe abandoned. Abandoned pipe found on landside levee toe.- abandoned power pole on waterside.- mobile diesel pump on channel bank.- attached tin pipes exposed on levee surface. FIELD_STRUCT_DESC: 14-inch steel pipe through the levee crown, the placement of two 12-inch diameter tin pipes on the surface of the levee slopes attached to the existing 14-inch steel pipe. The pipe discharges into irrigation ditch on landside. An air vent on landside shoulder. (App. No. 16476 - Ettl, 1997). FS Date: 10/10/2013					

LM Start	1.53	Rating **	M	Issue No.	20 (cont)
LM End	1.53	Issue Type +	En	Location *	WS

Photo 1 of 2 : UCIP_SP_2016_22543_38142.jpg



WS view: two exposed 12" tin pipes on levee slope. These pipes connected to the pump on river bank.

Photo 2 of 2 : UCIP_SP_2016_22543_38141.jpg



WS view: two exposed 12" tin pipes on levee slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/29/2016 03/29/2016	Keith Millard

LM Start	2.01	Rating **	M	Issue No.	1
LM End	2.34	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.037640 °	39.034416 °
				-121.828421 °	-121.825698 °
DWR ID	DWR_RD1660_01_s_2012_1				
Comment Code					
DT : Ditch					
Inspector Comment					

Photo 1 of 1 : SP_2016_RD1660_8_1_20160316_00001.jpg



View of the large ditch along the landside toe.

LM Start	2.16	Rating **	M	Issue No.	19
LM End	2.16	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Animal Control			39.035420 °	39.035420 °
				-121.828530 °	-121.828530 °
DWR ID	DWR_RD1660_01_f_2014_19				
Comment Code					
A3 : No rodents visible, but rodent burrows visible; need to backfill and compact or grout burrows.					
Inspector Comment					
Repair the rodent holes on the landside slope.					

Photo 1 of 1 : SP_2016_RD1660_8_19_20160316_00006.jpg



View of the rodent holes and bait station.

LM Start	2.37	Rating **	M	Issue No.	2
LM End	2.37	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			39.034107 °	39.034107 °
				-121.825152 °	-121.825152 °
DWR ID	DWR_RD1660_01_s_2012_2				
Comment Code					
S1 : Repair slope instability.					
Inspector Comment					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable		N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/29/2016 03/29/2016	Keith Millard

LM Start	2.39	Rating **	M	Issue No.	4
LM End	2.39	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			39.033858 °	39.033858 °
				-121.824985 °	-121.824985 °
DWR ID	DWR_RD1660_01_s_2012_4				
Comment Code					
S1 : Repair slope instability.					
Inspector Comment					

No Photos

LM Start	2.58	Rating **	M	Issue No.	3
LM End	2.58	Issue Type +	En	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.031405 °	39.031405 °
				-121.823403 °	-121.823403 °
DWR ID	DWR_RD1660_01_s_2012_3				
Comment Code					
EQ : Equipment					
Inspector Comment					

Photo 1 of 1 : SP_2016_RD1660_8_3_20160316_00002.jpg



View of equipment along the landside slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Sacramento River	Left	2.94	03/29/2016 03/29/2016	Keith Millard

LM Start	2.63	Rating **	M	Issue No.	5
LM End	2.66	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Slope Stability			39.030891 °	39.030436 °
				-121.822956 °	-121.822617 °
DWR ID	DWR_RD1660_01_s_2012_5				
Comment Code					
S1 : Repair slope instability.					
Inspector Comment					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Unit Cover Sheet

Spring 2016 Levee Inspection Results

Reclamation District No. 1660 Tisdale

Waterway			Bank	Unit Miles
Unit No. 02 Sutter Bypass			Right	9.10
	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)				
Date of Inspection	3/29/2016 - 3/29/2016			
DWR Inspector	Keith Millard			
Accompanied By	Andy Duffey			

Summer & Winter Inspections

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

<http://cdec.water.ca.gov/lma.html>

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The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/29/2016 03/29/2016	Keith Millard

LM Start	4.53	Rating **	U	Issue No.	4
LM End	4.53	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			39.095324 °	39.095324 °
				-121.769581 °	-121.769581 °
DWR ID	DWR_RD1660_02_s_2016_4				
Comment Code					
V7 : Trees / Woody Vegetation					
Inspector Comment					
Remove two large fallen Cottonwood trees on w/s slope from toe to crown.					

Photo 1 of 1 : SP_2016_RD1660_9_4_20160405_00004.jpg



Downed trees obstructing access

LM Start	5.10	Rating **	M	Issue No.	5
LM End	5.10	Issue Type +	En	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			39.102512 °	39.102512 °
				-121.774960 °	-121.774960 °
DWR ID					
Comment Code					
Inspector Comment					
FS_ID:22705					
DS_ID:22499					
EP_NO: N/A					
Repair Type: Non-Urgent					
Crossing Status: Found					
UCIP Comments: Pressure relief valve on landside levee slope.Pump platform under construction for upgrade (raising platform)Look for new upgrade/revision permit.					
FIELD_STRUCT_DESC: 18-inch steel pipe through the levee, 5.8 feet below crown. Pump in channel. Gate valve on the landward berm. Discharges into 4-foot by 4 foot concrete box on the landward berm. 2-inch electric conduit through the levee, 3.0 feet below the crown.					
(Permit No. 4215, 1963)					
FS Date: 10/15/2013					

Photo 1 of 2 : UCIP_SP_2016_22705_38394.jpg



WS view: pump platform under construction.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1660 Tisdale

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 02 Sutter Bypass	Right	9.10	03/29/2016 03/29/2016	Keith Millard

LM Start	5.10	Rating **	M	Issue No.	5 (cont)	
LM End	5.10	Issue Type +	En	Location *	WS	
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	DWR UCIP Field Study			39.102512 °		39.102512 °
				-121.774960 °		-121.774960 °
DWR ID						
Comment Code						
Inspector Comment						
FS_ID:22705						
DS_ID:22499						
EP_NO: N/A						
Repair Type: Non-Urgent						
Crossing Status: Found						
UCIP Comments: Pressure relief valve on landside levee slope.Pump platform under construction for upgrade (raising platform)Look for new upgrade/revision permit.						
FIELD_STRUCT_DESC: 18-inch steel pipe through the levee, 5.8 feet below crown. Pump in channel. Gate valve on the landward berm. Discharges into 4-foot by 4 foot concrete box on the landward berm. 2-inch electric conduit through the levee, 3.0 feet below the crown. (Permit No. 4215, 1963)						
FS Date: 10/15/2013						

Photo 2 of 2 : UCIP_SP_2016_22705_38393.jpg



WS view: pump platform under construction. 18" steel pipe and 2" electric conduit under steel platform.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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